

Notice of Allowability

Application No.

10/533,681

Examiner

Rose M. Miller

Applicant(s)

LANGER ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to IDS filed 28 April 2005.
2. ☒ The allowed claim(s) is/are 1-8.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 4/28/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


DANIEL S. LARKIN
PRIMARY EXAMINER

REASONS FOR ALLOWANCE

1. The information disclosure statement filed 28 April 2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. The reference EP 1 211 500 has been crossed off, as it was not considered with the IDS. However, the reference is listed on the enclosed PTO-892 as the Examiner had all ready pulled this reference for citation in the application.

2. Claims 1-8 are allowed.

3. The following is an examiner's statement of reasons for allowance: The prior art of record fails to teach and/or suggest a measuring system for picking up structure-borne sound from machine elements comprising, in combination with the other recited elements, a mounting pin having a passage hole therethrough along the length of the pin for passage of lubricant through the pin, a vibration sensor housing at least one vibration sensor, and especially comprising the mounting pin being such that in the end position of the screwing-in of the mounting pin, the vibration sensor housing is connected to the machine housing via a bushing with a force fit and so the vibration sensor housing is thereby secured against rotation and the vibration sensor is adjacent to the bushing, whereby structure-born sound is transmitted directly from the machine housing to the vibration sensor via the bushing.

Measuring systems for measuring the structure-borne sound from machine elements, even ones with mounting pins have a passage hole therethrough for the passage of lubricant into the machine, are known. See **Smith et al. (US 5,691,707)** and **Barclay (US 2002/0000126 A1)**. Device for fastening and locking positions of elements from further rotation, including vibration sensors, are also known. See **Modrey (US 4,140,040)** and **Bonner et al. (US 4,808,069)**. However, the prior art of record does not teach the fastening and locking device comprising a force-fit bushing which connects the vibration housing to the machine housing being monitored such that initial rotational movement is allowed between the vibration housing and the mounting pin but which resists rotation once the force-fit has been completed. Most mountings are utilized to isolate the attached sensor housings from the vibrations of the machine. The closest art is that of **Smith et al.** which does have a mounting "bushing" in the connector portion 14 disclosed. However, upon review of the reference, one of ordinary skill in

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the art cannot say that the connector portion 14 is utilized to connect the vibration sensor to the machine housing and to transmit the vibrations of the housing to the sensor as vibration sensor board 30 is isolated from the connector portion 14 by temperature sensor board 32 and two rubber washers 31 which would not transmit the vibrations felt by connector portion 14 to the vibration sensor on board 30 as rubber is an often utilized vibration isolator. Furthermore, there is no teaching or suggestion of the connector portion 14 resisting or stopping the rotation of the sensor and the sensor housing with respect to the machine housing. Therefore, the use of a force-bit bushing in connection with a vibration sensor for connecting the vibration sensor to the machine housing being monitored and for stopping the rotation of the vibration housing after the housing is set while still allowing for the application of lubricant through the vibration sensor and a mounting pin is not taught by the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rabek (US 3,731,541) discloses a combination fitting for monitoring the sound emissions of a machine while allowing for the lubrication of the machine without removing the monitor.

Modrey (US 4,140,040) discloses a fastening device for locking an insert in a hole of a support member.

Bonner et al. (US 4,808,069) discloses an anti-rotation guide vane bushing.

Morita et al. (EP 1 211 500 A1) discloses a rolling bearing apparatus with attached sensor.

Komninos (US 2004/0050163 A1) discloses an acoustic sensing device, system, and method for monitoring emissions from machinery.


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rose M. Miller whose telephone number is 571-272-2199. The examiner can normally be reached on Monday - Friday, 7:30 am to 3:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RMM
22 June 2006


DANIEL S. LARKIN
PRIMARY EXAMINER